

WHAT IS CLAIMED IS:

1. An electronic circuit comprising:
  - a shift circuit for shifting j-bit digital data ( $j$  is a natural number) to be converted into k-bit digital data ( $k$  is a natural number); and
    - a correction circuit being electrically connected to the shift circuit, the correction circuit continuously changing the k-bit digital data which is obtained by the shift circuit in accordance with the change of the j-bit digital data.
2. The electronic circuit according to Claim 1,
  - wherein the k-bit digital data is extended digital data which is larger than the j-bit digital data; and
    - wherein the shift circuit classifies a range of the j-bit digital data into a plurality of groups and shifts the digital data of each group by a predetermined number of bits in accordance with each group to convert it into the k-bit digital data.
3. The electronic circuit according to Claim 2,
  - wherein the correction circuit is electrically connected to electro-optical elements;
    - wherein the j-bit digital data is luminance gray scale data for controlling the luminance of the electro-optical elements; and
      - wherein the k-bit digital data is extended luminance gray scale data for controlling an amount of analog current which is supplied to the electro-optical elements.
4. The electronic circuit according to Claim 1,
  - wherein the correction circuit is an adder.
5. The electronic circuit according to Claim 1,
  - wherein the shift circuit determines the number of bits by which the j-bit digital data is shifted in accordance with the value of the j-bit digital data.
6. The electronic circuit according to Claim 5,
  - wherein the shift circuit performs shifting to the upper side so that a larger value group is shifted by a larger number of bits.
7. An electro-optical device comprising:
  - a control circuit for outputting j-bit luminance gray scale data ( $j$  is a natural number);
    - a driving circuit for generating analog driving signals based on the j-bit luminance gray scale data; and

a pixel circuit for driving current driven elements based on the analog driving signals,

wherein the driving circuit comprises:

a shift circuit for shifting the j-bit luminance gray scale data to convert it into k-bit digital data (k is a natural number);

a correction circuit being electrically connected to the shift circuit, the correction circuit continuously changing the k-bit digital data which is obtained by the shift circuit in accordance with the change of the j-bit luminance gray scale data.

8. The electro-optical device according to Claim 7,

wherein the k-bit digital data is extended digital data which is larger than the j-bit luminance gray scale data; and

wherein the shift circuit classifies a range of the j-bit digital data into a plurality of groups and shifts the digital data of each group by a predetermined number of bits in accordance with each group to convert it into the k-bit digital data.

9. The electro-optical device according to Claim 7,

wherein the correction circuit is an adder.

10. The electro-optical device according to Claim 7,

wherein the shift circuit determines the number of bits by which the j-bit luminance gray scale data is shifted in accordance with the value of the j-bit luminance gray scale data.

11. The electro-optical device according to Claim 10,

wherein the shift circuit performs shifting to the upper side so that a larger value group is shifted by a larger number of bits.

12. The electro-optical device according to Claim 7,

wherein the current driven elements are EL elements.

13. The electro-optical device according to Claim 12,

wherein the EL elements comprise light emitting layers made of organic materials.

14. An electronic apparatus in which the electronic circuit according to Claim 1 is mounted thereon.

15. An electronic apparatus in which the electro-optical device according to Claim 7 is mounted thereon.